

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A Lys-Lys binding site I which is a plasminogen fragment consisting of Kringle 1 to Kringle 3 of a human plasminogen with the N-terminal being lysine, which binding site binds to heparin and has the following properties:
  - a. a molecular weight of 38 kDa;
  - b. it is not glycosylated;
  - c. it binds to heparin at pH lower than neutral pH but does not bind to heparin at neutral or higher pH, under physiologic ionic conditions;
  - d. it inhibits lung tumor metastasis and lung tumor growth but has no ability to inhibit growth of endothelial cells of blood vessels;wherein said plasminogen fragment is prepared by;
  - a. preparing Lys-plasminogen from human plasminogen either by adding plasmin to a solution of human plasminogen or by incubating human plasminogen in the presence of tranexamic acid to autolysis;

b. treating the Lys-plasminogen obtained in step (a) with the elastase to produce fractions of the fragment consisting of Kringle 1 to Kringle 3;

c. subjecting the fractions of the fragment consisting of Kringle 1 to Kringle 3 obtained in step (b) to heparin affinity chromatography for selecting heparin-binding fractions to obtain said plasminogen fragment which binds to heparin.

2. (Previously Presented) A process for preparing a plasminogen fragment consisting of Kringle 1 to Kringle 3 of a human plasminogen with the N-terminal being lysine, said fragment having the ability to inhibit lung tumor growth, but having no ability to inhibit growth of endothelial cells of blood vessels, comprising;

a. preparing Lys-plasminogen from human plasminogen either by adding plasmin to a solution of human plasminogen or by incubating human plasminogen in the presence of tranexamic acid to autolysis;

b. treating the Lys-plasminogen obtained in step (a) with elastase to produce fractions of the fragment consisting of Kringle 1 to Kringle 3;

c. subjecting the fractions of the fragment consisting of Kringle 1 to Kringle 3 obtained in step (b) to heparin affinity chromatography for selecting heparin-binding

fractions to obtain said plasminogen fragment which binds to heparin; and

d. isolating the fragment which binds to heparin.

3. (Previously Presented) The process according to claim 2 wherein the heparin affinity chromatography is performed by passing a solution of the fractions of the fragment consisting of Kringle 1 to Kringle 3 through a carrier to which heparin is coupled as a ligand to adsorb those fragments which bind to heparin, and eluting those fragments which do not bind to heparin.

4. (Previously Presented) A composition for inhibiting lung tumor metastasis and lung tumor growth comprising an effective amount of a fragment according to claim 1 and, optionally, a pharmaceutically acceptable carrier.

5. (New) A Lys-Lys binding site I which is a plasminogen fragment consisting of Kringle 1 to Kringle 3 of a human plasminogen with the N-terminal being lysine, which binding site binds to heparin and has the following properties:

- (a) a molecular weight of 38 kDa;
- (b) is not glycosylated;

(c) it binds to heparin at pH lower than neutral pH but does not bind to heparin at neutral or higher pH, under physiological ionic conditions;

(d) it inhibits lung tumor metastasis and lung tumor growth, but has no ability to inhibit growth of endothelial cells of blood vessels.